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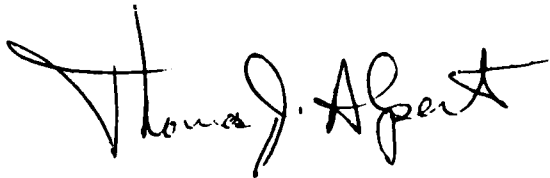
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Thomas J. Alpert, Major, USAF  
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## **QUARTERLY TECHNICAL REPORTS**

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679	The Design of an Adaptive Predictive Coder Using a Single-Chip Digital Signal Processor	Randolph, M.A.	11 Jan. 1985	ADA152461
693	Speech Analysis/Synthesis Based on a Sinusoidal Representation	McAulay, R.J. Quatieri, T.F.	17 May 1985	ADA157023
703	The Intelligibility of Non-Vocoded and Vocoded Semantically Anomalous Sentences	Mack, M.A. Gold, B.	26 July 1985	ADA160401
714	Non-Model Based Estimation with Applications to Sensor Calibration Using Multiple Sensors	Lee, T.S.	1 Apr. 1985	ADA154736
715	5-Watt, Solid-State, EHF Transmitter	Zolnay, S.L.	15 May 1985	ADA156933
716	Selected Publications in Image Understanding and Computer Vision from 1974 to 1983	Verly, J.G.	18 Apr. 1985	ADA156196
721	Metric Calibration of the Millstone Hill L-Band Radar	Gaposchkin, E.M.	19 Aug. 1985	ADA160362
724	Adaptive Detection in Non-Stationary Interference, Part I and Part II	Kelly, E.J.	25 June 1985	ADA158810
729	Low Pass Filters with Linear Phase	Lerner, R.M.	12 Dec. 1985	

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| 5470 | Circular Harmonic Analysis of PSFs Corresponding to Separable Polar-Coordinate Frequency Responses with Emphasis on Fan Filtering | Verly, J.G.<br>Peli, T.                          | IEEE Trans. Acoust. Speech Signal Process., Vol. ASSP-33, No. 1, February 1985, pp. 300-307<br>ADA160438                             |
| 5486 | InP Optoelectronic Switches   | Foyt, A.G.<br>Leonberger, F.J.                   | Chapter 9, <i>Picosecond Optoelectronic Devices</i> , Academic Press, NY, 1984, pp. 271-311  |
| 5506 | Direction Determination of Wideband Signals   | Lacoss, R.T.<br>Dowla, F.U.<br>Hamid, N.S.       | IEEE Trans. Acoust. Speech Signal Process., Vol. ASSP-33, No. 4, October 1985, pp. 1114-1122   |
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| 5629 | Circuit Design of the Loaded-Line Phase Shifter  | Atwater, H.A.  | IEEE Trans. Microwave Theory Tech., Vol. MTT-33,<br>No. 7, July 1985, pp. 626-634           |
| 5633 | Arrays of Horizontally Polarized Loop-Fed Slotted Cylinder Antennas  | Fenn, A.J.   | IEEE Trans. Antennas Propag., Vol. AP-33, No. 4,<br>April 1985, pp. 375-382                 |
| 5648 | A High-Frequency GaAs Optical Guided-Wave Electrooptic Interferometric Modulator                           | Donnelly, J.P.<br>DeMeo, N.L.<br>Ferrante, G.A.<br>Nichols, K.B.   | IEEE J. Quantum Electron., Vol. QE-21,<br>No. 1, January 1985,<br>pp. 18-21 ADA158583       |
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| 5672  | Single-Mode Optical Waveguides and Phase Modulators in the InP Material System             | Donnelly, J.P.<br>DeMeo, N.L.<br>Leonberger, F.J.<br>Groves, S.H.<br>Vohl, P.<br>O'Donnell, F.J. | IEEE J. Quantum<br>Electron., Vol. QE-21,<br>No. 8, August 1985,<br>pp. 1147-1151      |
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| 5684  | High-Field Electron Capture and Emission in Nitrided Oxides                                | Terry, F.L.<br>Wyatt, P.W.<br>Naiman, M.L.<br>Mathur, B.P.<br>Kirk, C.T.<br>Senturia, S.D.       | J. Appl. Phys., Vol. 57,<br>No. 6, 15 March 1985,<br>pp. 2036-2039 ADA153725           |
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| 5689 | Instruments and Methods for Microfabrication by Laser-Controlled Chemistry   | Ehrlich, D.J.  | Nucl. Instrum. Methods<br>Phys. Res. A, Vol. A239,<br>No. 3, 15 September 1985,<br>pp. 397-402 ADA160827 |
| 5690 | Line-Center Stabilized CO <sub>2</sub> Lasers as Secondary Frequency Standards: Determination of Pressure Shift and Other Errors | SooHoo, K.L.<br>Freed, C.<br>Thomas, J.E.<br>Haus, H.A.            | IEEE J. Quantum<br>Electron., Vol. QE-21,<br>No. 8, August 1985,<br>pp. 1159-1171                        |
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| 5693 | A Dual-Detector Optical Heterodyne Receiver for Local Oscillator Noise Suppression   | Abbas, G.L.<br>Chan, V.W.S.<br>Yee, T.K.                           | IEEE J. Lightwave<br>Technol., Vol. LT-3,<br>No. 5, October 1985,<br>pp. 1110-1122                       |
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| 5696 | Surface-Emitting GaInAsP/InP Laser with Low Threshold Current and High Efficiency  | Liau, Z.L.<br>Walpole, J.N.  | Appl. Phys. Lett.,<br>Vol. 46, No. 2,<br>15 January 1985,<br>pp. 115-117 ADA151425                       |
| 5699 | High-Power Second Harmonic Emission and Frequency Locking in a 28-GHz Gyrotron   | Danly, B.G.<br>Mulligan, W.J.<br>Temkin, R.J.<br>Sollner, T.C.L.G. | Appl. Phys. Lett.,<br>Vol. 46, No. 8,<br>15 April 1985,<br>pp. 728-730                                   |

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| 5714 | The Constitution of Nitrided Oxides and Reoxidized Nitrided Oxides on Silicon                            | Naiman, M.L.<br>Kirk, C.T.<br>Emerson, B.L.<br>Taitel, J.B.<br>Senturia, S.D. | J. Appl. Phys., Vol. 58, No. 2, 15 July 1985, pp. 779-792 ADA157950           |
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| 5716 | Maximizing Jammer Effectiveness for Evaluating the Performance of Adaptive Nulling Array Antennas        | Fenn, A.J.  | IEEE Trans. Antennas Propag., Vol. AP-33, No. 10, October 1985, pp. 1131-1142 |
| 5719 | Equalisation of Semiconductor Diode Laser Frequency Modulation with a Passive Network                    | Alexander, S.B.<br>Welford, D.  | Electron. Lett., Vol. 21, No. 9, 25 April 1985, pp. 361-362 ADA156615         |
| 5720 | Enhanced Quantum Efficiency Internal Photoemission Detectors by Grating Coupling to Surface Plasma Waves | Brueck, S.R.J.<br>Diadiuk, V.<br>Jones, T.<br>Lenth, W.                       | Appl. Phys. Lett., Vol. 46, No. 10, 15 May 1985, pp. 915-917                  |
| 5722 | Wide-Bandwidth Guided-Wave Electro-Optic Intensity Modulator at $\lambda = 3.39 \mu\text{m}$             | Becker, R.A.<br>Rediker, R.H.<br>Lind, T.A.                                   | Appl. Phys. Lett., Vol. 46, No. 9, 1 May 1985, pp. 809-811 ADA155411          |
| 5730 | Applications of SAW Convolvers to Spread-Spectrum Communications and Wideband Radar                      | Yao, I.<br>Cafarella, J.H.  | IEEE Trans. Sonics Ultrason., Vol. SU-32, No. 5, September 1985, pp. 760-770  |

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| 5735 | Binary Lenses for Use at<br>10.6 Micrometers  | Swanson, G.J.<br>Veldkamp, W.B.   | Opt. Eng., Vol. 24, No. 5,<br>September/October 1985,<br>pp. 791-795 ADA160569        |
| 5736 | Laser Remote Sensing of<br>Atmospheric Ammonia Using<br>a CO <sub>2</sub> LIDAR System    | Force, A.P.<br>Killinger, D.K.<br>DeFeo, W.E.<br>Menyuk, N.                         | Appl. Opt., Vol. 24,<br>No. 17, 1 September 1985,<br>pp. 2837-2841                    |
| 5737 | Measurement of Surface<br>Diffusion by Laser-<br>Beam-Localized Surface<br>Photochemistry | Tsao, J.Y.<br>Zeiger, H.J.<br>Ehrlich, D.J.   | Surf. Sci., Vol. 160,<br>No. 2, September 1985,<br>pp. 419-442                        |
| 5741 | Laser Linewidth   | Mooradian, A.   | Phys. Today, Vol. 38,<br>No. 5, May 1985,<br>pp. 42-47 ADA157970                      |
| 5742 | The SAW FET Signal<br>Processor   | Green, J.B.<br>Kino, G.S.   | IEEE Trans. Sonics<br>Ultrason., Vol. SU-32,<br>No. 5, September 1985,<br>pp. 734-744 |
| 5744 | 18.5-dB Gain at 18 GHz with<br>a GaAs Permeable Base<br>Transistor                        | Bozler, C.O.<br>Hollis, M.A.<br>Nichols, K.B.<br>Rabe, S.<br>Vera, A.<br>Chen, C.L. | IEEE Electron Device<br>Lett., Vol. EDL-6,<br>No. 9, September 1985,<br>pp. 456-458   |
| 5748 | The Polylogarithm in Algebraic<br>Number Fields   | Lewin, L.<br>Abouzahra, M.D.  | J. Number Theory, Vol. 21,<br>No. 2, October 1985,<br>pp. 214-244                     |

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## UNCLASSIFIED

SECURITY CLASSIFICATION OF THIS PAGE (When Data Entered)

REPORT DOCUMENTATION PAGE		READ INSTRUCTIONS BEFORE COMPLETING FORM
1. REPORT NUMBER ESD-TR-85-320	2. GOVT ACCESSION NO. <b>AD-A167 987</b>	3. RECIPIENT'S CATALOG NUMBER
4. TITLE (and Subtitle) Unclassified Publications of Lincoln Laboratory — Volume 11		5. TYPE OF REPORT & PERIOD COVERED Bibliography, 31 December 1984 to 31 December 1985
		6. PERFORMING ORG. REPORT NUMBER
7. AUTHOR(s) Publications Office		8. CONTRACT OR GRANT NUMBER(s) F19628-85-C-0002
9. PERFORMING ORGANIZATION NAME AND ADDRESS Lincoln Laboratory, M.I.T. P.O. Box 73 Lexington, MA 02173-0073		10. PROGRAM ELEMENT, PROJECT, TASK AREA & WORK UNIT NUMBERS None
11. CONTROLLING OFFICE NAME AND ADDRESS Air Force Systems Command, USAF Andrews AFB Washington, DC 20334		12. REPORT DATE 31 December 1985
14. MONITORING AGENCY NAME & ADDRESS (if different from Controlling Office) Electronic Systems Division Hanscom AFB, MA 01731		13. NUMBER OF PAGES 68
		15. SECURITY CLASS. (of this Report) Unclassified
		15a. DECLASSIFICATION DOWNGRADING SCHEDULE
16. DISTRIBUTION STATEMENT (of this Report)  Approved for public release; distribution unlimited.		
17. DISTRIBUTION STATEMENT (of the abstract entered in Block 20, if different from Report)		
18. SUPPLEMENTARY NOTES  None		
19. KEY WORDS (Continue on reverse side if necessary and identify by block number)  Bibliography		
20. ABSTRACT (Continue on reverse side if necessary and identify by block number)  Volume 11 of Unclassified Publications of Lincoln Laboratory lists reports published from 31 December 1984 to 31 December 1985, as well as updated information on earlier publications.  Documents listed herein are generally no longer available from Lincoln Laboratory. Qualified Defense Technical Information Center (DTIC) users may purchase copies through normal DTIC channels. Others may purchase photocopies or microfiche from the U.S. Department of Commerce, National Technical Information Service, Springfield, Virginia 22161. When ordering, the 6-digit AD number should be cited.		